LIST OF CURRENT CLAIMS

1. (Currently Amended) A rare earth oxide superconductor comprising:

a metal substrate;

an intermediate layer formed on the surface of the metal substrate by sequentially disposing:

a first intermediate cerium-based oxide layer comprising cerium and one or more solid solution formation elements, selected from the group consisting of Y, Nd, Sm, Gd, Eu, Yb, Ho, Tm, Dy, La and Er, which are capable of forming a solid solution with cerium ~~and selected from the group consisting of Y, Nd, Sm, Gd, Eu, Yb, Ho, Tm, Dy, La and Er~~, and

a second intermediate cerium-based oxide layer, different from the first intermediate cerium-based oxide layer and comprising cerium and one or more charge compensation elements capable of compensating for a charge mismatch attributable to a difference between the electron valences of respective ions of cerium and the solid solution formation element, and selected from the group consisting of Bi, Nb, Sb, Ta and V, wherein the total of the solid solution formation element and the charge compensation element in the intermediate layers is 5 to 60 mol% in terms of the metal content; and

a rare earth oxide superconductive layer formed on the intermediate layer and having a critical temperature (Tc) of 85-88° K.

2 - 10. (Canceled)

11. (Previously Presented) The rare earth oxide superconductor according to claim 1, wherein the metal substrate is a biaxially aligned metal substrate.

12. (Currently Amended) A method for producing a rare earth oxide superconductor comprising the steps of:

applying a mixed solution, on the surface of a metal substrate, comprising an organometallic acid salt of cerium and an organometallic acid salt of one or more solid solution formation elements, selected from the group consisting of Y, Nd, Sm, Gd, Eu, Yb, Ho, Tm, Dy, La and Er, which are capable of forming a solid solution with cerium ~~and selected from the group consisting of Y, Nd, Sm, Gd, Eu, Yb, Ho, Tm, Dy, La and Er~~, and then preliminarily calcining the same to form a first cerium-based oxide intermediate layer;

applying a mixed solution, on the first cerium-based oxide intermediate layer, comprising an organometallic acid salt of cerium and an organometallic acid salt of one or more of a charge compensation element capable of compensating for a charge mismatch attributable to a difference between the electron valences of respective ions of cerium and the solid solution formation element and selected from the group consisting of Bi, Nb, Sb, Ta and V, to form a second cerium-based oxide intermediate layer, wherein the total of the solid solution formation element and the charge compensation element in the intermediate layers is 5 to 60 mol% in terms of the metal content, followed by a heat treatment in a reducing atmosphere under a pressure ranging from 0.1 Pa to below atmospheric pressure and a temperature in a range from 900 to 1200°C to form a cerium-based oxide intermediate layer including the first and second cerium-based oxide intermediate layers; and then

forming by an MOD method a rare earth oxide superconductive layer on the intermediate layer.

13 - 17. (Canceled)

18. (Previously Presented) The method for producing a rare earth oxide superconductor according to claim 12, wherein the cerium-based oxide intermediate layer is formed by calcination in a reducing atmosphere under a pressure in a range from 10 to 500 Pa and a temperature ranging from 950 to 1150°C.

19-26. (Canceled)

27. (Previously Presented) The rare earth oxide according to claim 1 wherein the solid solution formation element is Gd and the charge compensation element is Nb.

28. (Previously Presented) The method for producing a rare earth oxide superconductor according to claim 12 wherein the solid solution formation element is Gd and the charge compensation element is Nb.